# Alternative Temporary Park and Ride and Heavy Goods Vehicle Marshalling Area - Environmental Statement Volume 2 Chapter 7: Ecology

United Utilities Water Limited

Haweswater Aqueduct Resilience Programme

Planning Application Document RVBC–P&R-APP-RP-002 / ES-CH-07
February 28, 2025

# Alternative Temporary Park and Ride and Heavy Goods Vehicle Marshalling Area - Environmental Statement
# Volume 2 Chapter 7: Ecology

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# 7. Ecology

## 7.1 Overview and Scope of the Assessment

1) This chapter details the likely significant effects of the Alternative Facility in relation to ecology and nature conservation. An ecological assessment has been undertaken to support the EIA and is attached as an appendix to this report. The assessment includes consideration of the following matters:

- Designations – statutory and non-statutory sites of nature conservation interest
- Habitats
- Species.

2) This chapter has links to the assessment presented in other topic chapters, in particular Chapter 6 Water Environment, which assesses the likely significant effects on water quality through pollution, and Chapter 11 Noise and Vibration, which assesses the likely significant effects of noise and vibration from road traffic, plant and machinery.

3) This chapter is supported by the following figures and appendices:

- Figure 7.1 Ecology Baseline UK Habitat Plan
- Figure 7.2 Ecological Designations Plan
- Appendix D Ecological Assessment Report.

4) A list of abbreviations and acronyms is presented in Volume 4 Appendix A.1.

### 7.1.1 Scope of the Assessment

5) United Utilities issued a Scoping Report[1] for the Alternative Facility to Ribble Valley Borough Council in October 2024. This set out the proposed scope of the assessment for each environmental topic. The following matters were scoped out of the assessment, as these were unlikely to result in significant effects given the embedded and good practice measures referenced in Chapter 13 Environmental Mitigation and Appendix A.2 Construction Code of Practice (CCoP). As detailed within the Scoping Report, ecological features which are assessed as being of less than local value for biodiversity were also scoped out of the Ecological Impact Assessment (EcIA). These include:

- Neutral grassland: less than local importance. Any losses to be compensated for within the Biodiversity Net Gain (BNG) strategy (see RVBC–P&R-APP-RP-007 HARP P&R/HGV Area Statutory BNG Metric, attached to the planning application)
- Roadside verge: less than local importance. Any losses to be compensated for within the BNG strategy
- Silage field: less than local importance. Any losses to be compensated for within the BNG strategy.

6) Several additional features were originally scoped in within the Scoping Report. However, further information was acquired for the site within the desk study following the original

[1] United Utilities (2024). Alternative Temporary Park and Ride and Heavy Goods Vehicle Marshalling Area EIA Scoping Report. [Online] Available at: https://webportal.ribblevalley.gov.uk/planx_downloads/24_0893_EIA_Scoping_Report.pdf [Accessed: January 2025].

scoping assessment which has resulted in further ecological features being ruled out due to being extremely unlikely to be present on site. The following designated sites have been scoped out of the ecology assessment, due to the designation relating to geological exposures: Salthill and Bellmanpark Quarries Site of Special Scientific Interest (SSSI); Clitheroe Knoll Reefs SSSI; Little Mearley Clough SSSI and Coplow Quarry SSSI.

7) Great crested newt (GCN), water vole and reptiles have also been scoped out as no records were returned within the desk study, and the eDNA test for GCN was returned negative, therefore these species are extremely unlikely to be present on site (see Section 7.4 Baseline Environment).

8) The loss of habitats on site would be compensated for through the BNG strategy. United Utilities is committed to a 10% BNG on the Alternative Facility. Since United Utilities does not own the land, the company cannot commit to habitat creation and the associated 30-year management plan on site. All habitats would be reinstated back to pre-commencement condition as a minimum and BNG delivery would be achieved through purchasing offsite units, as required.

9) Table 7.1 presents the scope of the assessment for ecology based on the likely significant effects that would occur as a result of the Alternative Facility.

**Table 7.1: Matters Scoped into the Assessment**

| Receptor/Receptor Group | Matter/Likely Significant Effects | Comments |
|---|---|---|
| Designations<br>▪ Salthill Quarry Local Nature Reserve (LNR)<br>▪ Cross Hill Quarry LNR<br>▪ Salthill Quarry Biological Heritage Site (BHS)<br>▪ Bellman Park Quarry BHS<br>▪ Worston Common BHS<br>▪ Worsaw Hill, Warren Hill, Crow Hill and The Ridge BHS<br>▪ Bellman Farm Marsh BHS<br>▪ Coplow Quarry and Pimlico Road Grasslands BHS. | Risk of indirect harm through disturbance (dust, noise, vibration, runoff). | Unmitigated indirect harm through disturbance could impact the designating features. |
| Habitats<br>▪ Hedgerows<br>▪ Woodland<br>▪ Running water. | Direct loss and severance of wildlife habitats through land-take, including the resulting effects upon associated species.<br><br>Risk of indirect harm through disturbance (dust, noise, vibration, runoff). | Loss and damage of habitats during construction and operation.<br>Disruption of the local watercourse and field drainage patterns causing:<br>▪ Changes to water quality<br>▪ Morphological and geomorphological variations<br>▪ Polluted runoff affecting the water environment<br>▪ Sediment delivery, mortality, injury, displacement of species<br>▪ Introduction of invasive, non-native plants and species.<br>Unmitigated indirect harm could impact retained habitats through disturbance including polluted runoff, dust, noise and vibration. |

| Receptor/Receptor Group | Matter/Likely Significant Effects | Comments |
|---|---|---|
| Species<br>▪ Bats<br>▪ Birds (various) including Schedule 1 barn owl and kingfisher<br>▪ Otter<br>▪ Fish including salmon, bullhead, European eel<br>▪ Common amphibians<br>▪ Badger<br>▪ Other mammals including hedgehog and brown hare. | Direct loss and severance of wildlife habitats through land-take.<br>Risk of death and injury<br>Indirect harm through disturbance (dust, noise, vibration, lighting, runoff, increase in human presence). | Reduction in foraging and dispersal habitat.<br>Direct mortality, injury, disturbance or displacement through construction and operational activities.<br>Increase in severance and fragmentation by dividing habitats or wildlife corridors.<br>Deposits of contamination substrate affecting habitats and species.<br>Indirect harm through disturbance and pollution (dust, runoff, noise, vibration, traffic – vehicle/people).<br>Light pollution from operational activities and site compounds.<br>Introduction of invasive, non-native plants and animals. |

## 7.2 Key Legislation, Policy and Guidance

10) Table 7.2 sets out key legislation, policy and guidance of relevance for ecology.

**Table 7.2: Key Legislation and Guidance for Ecology**

| Applicable Legislation and Guidance | Description |
|---|---|
| International Legislation | |
| Convention on Biological Diversity 1992[2] | Established a global vision for biodiversity, including a set of strategic goals and targets to drive action. The government subsequently published The Natural Choice[3] ('White Paper') in June 2011 which responds to the global commitments of the Convention on Biological Diversity, outlining the government's vision for the natural environment, putting greater emphasis on a more integrated landscape-scale approach as opposed to piecemeal conservation action. |
| Bern Convention on the Conservation of European Wildlife and Natural Habitats 1979[4] | The primary aims are to ensure conservation and protection of wild plant and animal species and their natural habitats. The obligations of the Convention are transposed into UK law by means of the Wildlife and Countryside Act 1981[5] (as amended). |
| Bonn Convention on the Conservation of Migratory Species of Wild Animals 1979[6] | Pertains to migratory species and those that regularly cross the political boundaries of countries. The obligations of the Convention are transposed into UK law by means of the Wildlife and Countryside Act 1981[5] (as amended), with the Countryside and Rights of Way Act 2000[7] strengthening the protection of certain species in England and Wales. |

[2] Convention on Biological Diversity 1992. [Online] Available at: https://www.cbd.int/convention/text [Accessed: January 2025].

[3] Department for Environment, Food and Rural Affairs (2011). The Natural Choice: securing the value of nature. [Online] Available at: https://assets.publishing.service.gov.uk/media/5a7cb8fce5274a38e57565a4/8082.pdf [Accessed: January 2025].

[4] European Economic Community (1979). Bern Convention on the Conservation of European Wildlife and Natural Habitats 1979. [Online] Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=legissum:l28050 [Accessed: January 2025].

[5] Wildlife and Countryside Act 1981. [Online] Available at: https://www.legislation.gov.uk/ukpga/1981/69 [Accessed: January 2025].

[6] Bonn Convention on the Conservation of Migratory Species of Wild Animals 1979. [Online] Available at: https://www.cms.int/en/convention-text [Accessed: January 2025].

[7] Countryside and Rights of Way Act 2000. [Online] Available at: https://www.legislation.gov.uk/ukpga/2000/37/contents [Accessed: January 2025].

| Applicable Legislation and Guidance | Description |
|---|---|
| Agreement on the Conservation of Populations of Bats in Europe[8] | Legally binding agreement under the Bonn Convention, which came into force in the UK in 1994. It recognises that endangered migratory species can only be properly protected if activities are carried out over the entire migratory range of the species, and it aims to protect all species of bats identified in Europe through legislation, education, conservation measures and international cooperation. |
| Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat[9] | Intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. The Convention has several mechanisms to help Contracting Parties designate their most significant wetlands as Ramsar sites, and to take the steps necessary to manage them effectively, maintaining their ecological character. |
| Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora[10] | Referenced by the Conservation of Habitats and Species Regulations 2017 (as amended)[11]. Provides definitions for factors such as the favourable conservation status of habitats and species. Sets out a framework at Annex III for site selection criteria to be applied for the designation of Special Areas of Conservation (SACs), in addition to providing lists of natural habitat types (Annex I) and species (Annex II) for which the designation of SACs should be prioritised. Also lists species of animals (Annex IV(a)) and plants (Annex IV(b)) species which are in need of strict protection. |
| National Legislation | |
| The Conservation of Habitats and Species Regulations 2017 (as amended)[11]<br>Including:<br>The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[12] | Provide for the identification, designation and protection of Natura 2000 sites; including SACs, Special Protection Areas (SPA) and Ramsar sites. The Regulations also convey a statutory requirement for authorities to undertake a Habitats Regulations Assessment of the potential impacts of plans and projects, including development proposals, on Natura 2000 sites and also convey strict levels of protection to certain species and their habitats or places of shelter. Derogations are afforded for such species through grant of licences, which must satisfy three tests relating to purpose and there being no satisfactory alternative for the proposed activity and maintaining favourable conservation status of the affected species. |
| Wildlife and Countryside Act 1981[5] (as amended) | The major legal instrument for wildlife protection in the UK, providing varying levels of protection for wild animals, birds and plants, controls for non-native invasive species, and protecting the important habitats as SSSIs. |
| Countryside and Rights of Way Act 2000 (CRoW Act)[7] | Part III deals specifically with wildlife protection and nature conservation, requiring government departments to have regard for the conservation of biodiversity in accordance with the Convention on Biological Diversity[2], and that the Secretary of State publishes a list of living organisms and habitat types that are considered to be of principal importance in conserving biodiversity. It also amends and strengthens certain protections afforded by the Wildlife and Countryside Act 1981. |

[8] HM Government (1994). Agreement on the Conservation of Populations of Bats in Europe. [Online] Available at: https://assets.publishing.service.gov.uk/media/5a7b7da2ed915d1a790239e8/Bats_1991.pdf [Accessed: January 2025].

[9] Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention). [Online] Available at: https://www.ramsar.org/sites/default/files/documents/library/current_convention_text_e.pdf [Accessed: January 2025].

[10] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. [Online] Available at: https://eur-lex.europa.eu/eli/dir/1992/43/oj/eng [Accessed: January 2025].

[11] Conservation of Habitats and Species Regulations 2017. [Online] Available at: https://www.legislation.gov.uk/uksi/2017/1012/contents [Accessed: January 2025].

[12] The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. [Online] Available at: https://www.legislation.gov.uk/uksi/2019/579/contents/made [Accessed: January 2025].

| Applicable Legislation and Guidance | Description |
|---|---|
| Natural Environment and Rural Communities Act 2006[13] (NERC Act 2006) | Imposes a duty on all public bodies to have regard for biodiversity conservation when carrying out their functions. This extends the duty imposed upon government and ministers by the CRoW Act. Section 41 provides for the establishment of a list of habitats and species that are considered to be of '*principal importance for the purpose of conserving biodiversity*' for which biodiversity conservation should be prioritised. These are referred to hereafter as Habitats of Principal Importance (HPIs) and Species of Principal Importance (SPIs). |
| National Parks and Access to the Countryside Act 1949[14] | Enables the establishment and management of Nature Reserves:<br>▪ For the purpose of research and study of flora and fauna or geological and physiographical features<br>▪ For the preservation of such special features.<br>National Nature Reserves (NNRs) may be established and declared by the statutory nature conservation agencies and managed by them or an approved body. Local authorities may also establish nature reserves and declare them LNRs, provided the relevant statutory nature conservation agency approves. |
| Hedgerows Regulations 1997[15] | Protects certain 'important' hedgerows from removal or damage without permission from the local planning authority. Works to important hedgerows are exempt under the Regulations if planning consent is granted which allows their removal. |
| Protection of Badgers Act 1992[16] | This makes it an offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. A badger sett is defined in the legislation as '*any structure or place, which displays signs indicating current use by a badger*' and includes above and below-ground features. |
| National Policy | |
| National Planning Policy Framework (NPPF)[17] | This states the importance of protecting and enhancing sites of biodiversity, recognising the wide benefits from ecosystem services provided by trees and woodland and minimising impacts on, and providing measurable net gains for, biodiversity. It also states the need to identify, map and safeguard local wildlife-rich habitats and wider ecological networks, and to promote the conservation, restoration and enhancement of priority habitats, ecological networks, and the protection and recovery of priority species. |
| Planning Practice Guidance[18] | This provides guidance on the implementation of the NPPF for ecology, including considering the opportunities that individual development proposals may provide to conserve and enhance biodiversity and contribute to habitat connectivity in the wider area. |

[13] Natural Environment and Rural Communities Act 2006. [Online] Available at: https://www.legislation.gov.uk/ukpga/2006/16/contents [Accessed: January 2025].

[14] National Parks and Access to the Countryside Act 1949. [Online] Available at: https://www.legislation.gov.uk/ukpga/Geo6/12-13-14/97 [Accessed: January 2025].

[15] The Hedgerows Regulations 1997. [Online] Available at: https://www.legislation.gov.uk/uksi/1997/1160/contents [Accessed: January 2025].

[16] Protection of Badgers Act 1992. [Online] Available at: https://www.legislation.gov.uk/ukpga/1992/51/contents [Accessed: January 2025].

[17] Ministry of Housing, Communities and Local Government (2024a). National Planning Policy Framework. [Online] Available at: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf [Accessed: January 2025].

[18] Ministry of Housing, Communities and Local Government (2024b). Planning Practice Guidance. [Online] Available at: https://www.gov.uk/government/collections/planning-practice-guidance [Accessed: January 2025].

| Applicable Legislation and Guidance | Description |
|---|---|
| Town and Country Planning Act 1990[19] | In England, BNG is mandatory under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021).<br>Developers must deliver a BNG of 10%. This means a development will result in more or better-quality natural habitat than there was before development. |
| Local Policy | |
| Ribble Valley Borough Council Core Strategy[20] | The following local planning policies are relevant to ecology:<br>▪ EN4: Biodiversity and Geodiversity<br>▪ DME1: Protecting Trees and Woodlands<br>▪ DME3: Site and Species Protection and Conservation. |
| Forest of Bowland Area of Outstanding Natural Beauty Management Plan 2019 – 2024[21] | The Plan sets out the challenges and objectives for management of the National Landscape (formerly Area of Outstanding Natural Beauty (AONB). One of the three core themes is '*An Outstanding Landscape of Natural and Cultural Heritage*' and one of the four objectives for this theme is '*Habitats and Species: Conserve, enhance and restore the AONB's characteristic mosaic of habitats by improving their connectivity, extent and condition; whilst taking targeted action to conserve key species and improving understanding of the biodiversity of the AONB*'. |
| Guidance | |
| Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal[22] | Provides a common framework for preliminary ecological assessment to promote better communication, understanding and cooperation between stakeholders. |
| CIEEM Guidelines for Ecological Impact Assessment[23] | Promotes good practice, a scientifically rigorous and transparent approach to ecological impact assessment (EcIA). Provides a common framework for EcIA to promote better communication and closer cooperation between ecologists undertaking EcIA and provides decision makers with relevant information about the likely ecological effects of a project. |
| BS 42020:2013 Biodiversity: Code of practice for planning and development[24] | Provides standard recommendations on topics such as professional practices, proportionality, pre-application discussions, ecological surveys scope and method, adequacy of ecological information, reporting and monitoring. Cites CIEEM EcIA Guidelines as the acknowledged reference on EcIA. |

## 7.3 Study Area

11) The study area includes land within the planning application boundary, as well as ecological receptors within 2 km of the site that may be impacted by the Alternative Facility.

[19] Town and Country Planning Act 1990. [Online] Available at: https://www.legislation.gov.uk/ukpga/1990/8/contents [Accessed: January 2025].

[20] Ribble Valley Borough Council (2014). Core Strategy 2008 – 2028 A Local Plan for Ribble Valley. [Online] Available at: https://www.ribblevalley.gov.uk/downloads/file/1700/adopted-core-strategy [Accessed: January 2025].

[21] Forest of Bowland AONB Partnership (2019). Forest of Bowland Area of Outstanding Natural Beauty Management Plan 2019 – 2024. [Online] Available at: https://www.forestofbowland.com/files/images/FOB%20ManPlan0719bLoRes.pdf [Accessed: January 2025].

[22] CIEEM (2017). Guidelines for Preliminary Ecological Appraisal, Second Edition.

[23] CIEEM (2024). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal. Version 1.3.

[24] British Standards Institution (2013). BS 42020:2013 Biodiversity: Code of practice for planning and development. London: British Standards Institution.

## 7.4 Baseline Environment

### 7.4.1 Data Sources and Field Surveys

12) The following data sources have been used to establish an understanding of the baseline environment:

- Lancashire Environment Record Network[25]
- The Multi-Agency Geographic Information for the Countryside (MAGIC) website[26]
- Ordnance Survey (OS) maps
- Aerial photographs.

13) Field surveys were also undertaken to support the desk study information and the understanding of the baseline environment. This includes a GCN eDNA survey undertaken on 22 April 2024, UKHAB survey undertaken on 21 May 2024, updated UKHAB survey undertaken on 28 August 2024 following changes to the planning application boundary, bat tree inspections undertaken on 12 August 2024 and during week commencing 19 August 2024, bat activity surveys undertaken on 14 August 2024 and 10 September 2024, bat emergence surveys on 14 August 2024 and 4 September 2024, water vole and otter surveys on 21 May 2024 and 16 August 2024, a MoRPh survey on 19 August 2024, badger survey on 25 September and barn owl survey on 20 August 2024.

### 7.4.2 Existing Baseline

14) Salthill Quarry LNR is located within 3 m of the Alternative Facility, to the east of the Alternative Facility. Cross Hill Quarry LNR is located over 1.32 km north-east of the Alternative Facility. Due to the distance to the Cross Hill Quarry LNR, no direct or indirect impacts are anticipated, therefore the Cross Hill Quarry LNR is not being considered further within the assessment.

15) Salthill and Bellmanpark Quarries SSSI is located directly adjacent to the planning application boundary. Clitheroe Knoll Reefs SSSI is located 686 m north-east. Coplow Quarry SSSI is located over 910 m north-west. Little Mearley Clough SSSI is located over 2 km south-east. These sites are designated for geological interest but are also known for their botanical interest (although this is not on the SSSI citations). As such, these features have been scoped out of the assessment, as none of these sites are located within the planning application boundary and none of the Alternative Facility works would damage the designated features of these sites.

16) No NNR or other statutory wildlife sites were identified within 5 km of the planning application boundary.

17) The Alternative Facility overlies SSSI Impact Risk Zones. These identify risk categories relating to minerals, oil and gas, air pollution, combustion and waste processes and therefore are not relevant to the Alternative Facility.

18) Bellman Park Quarry BHS is located directly adjacent to the Alternative Facility, just outside the planning application boundary to the east. Salthill Quarry BHS is located within 46 m of the

[25] Lancashire Environment Record Network (n.d.). LERN – the Lancashire Environment Record Network. [Online] Available at: https://www.lancashire.gov.uk/lern/ [Accessed: October 2024].

[26] Natural England (2025). Multi-Agency Geographic Information for the Countryside. [Online] Available at: https://magic.defra.gov.uk/ [Accessed: January 2025].

Alternative Facility, to the west. Worston Common BHS is located 422 m east. Bellman Farm Marsh 607 m and Worsaw Hill, Warren Hill, Crow Hill and The Ridge BHS are located 685 m north-east. Coplow Quarry and Pimlico Road Grasslands BHS are located 843 m north-west. Due to the distance (over 400 m) of the Worston Common BHS, Bellman Farm Marsh BHS, Worsaw Hill, Warren Hill, Crow Hill and The Ridge BHS, and Coplow Quarry and Pimlico Road Grasslands BHS, from the Alternative Facility, no direct or indirect impacts are anticipated, therefore these sites are not being considered further within the assessment.

19) Table 7.3 sets out the designated sites associated with the Alternative Facility (see Figure 7.2 for a plan showing the locations of the following designations).

**Table 7.3: Designated Sites for Nature Conservation Baseline Information and Evaluation**

| Site Name | Designation | Reason for Designation | Evaluation |
|---|---|---|---|
| Salthill and Bellmanpark Quarries | SSSI | Primarily designated for its geological interest in the form of Chadian knoll reefs. | Scoped out due to geological designation and small scale of impacts. |
| Clitheroe Knoll Reefs | SSSI | Primarily designated for its geological interest in the form of knoll reefs formed in Chadian Stage. | Scoped out due to geological designation and small scale of impacts. |
| Coplow Quarry | SSSI | Primarily designated for its geological interest in the form of knoll reefs formed in the Chadian age and its associated sediments. | Scoped out due to geological designation and small scale of impacts. |
| Little Mearley Clough | SSSI | Primarily designated for its geological interest in the form of excellent exposure of rock layers laid during the Namurian period, 320 million years ago. | Scoped out due to geological designation and small scale of impacts. |
| Salthill Quarry | LNR | A botanically rich habitat supporting an array of wildflowers, woodland as well as the fossilised remains of crinoids. Habitat supports a diversity of birds and invertebrates. | County |
| Cross Hill Quarry | LNR | A mosaic of woodland and small meadow. Habitat supports a diversity of birds and invertebrates. | Scoped out due to distance from the site and small scale of impacts. |
| Salthill Quarry | BHS | The site comprises a mosaic of habitats including limestone grassland, scrub and developing woodland surrounding a former limestone quarry which has been developed as an industrial estate. The main areas of interest are the exposed outcrops and stony ground which have been colonised by a diverse flora. The site is also noteworthy for the presence of bryophytes and birds. The labyrinth spider (*Agelena labyrinthica*) occurs here. | County |
| Bellman Park Quarry | BHS | Bellman Park Quarry is cut into one of a series of limestone hills and is a link in a chain of calcareous habitats and features between Clitheroe and Downham. The quarry floor comprises variously sized hummocks and mounds as well as areas of flat ground, with the vegetation ranging from open calcareous to grass-dominated swards, together with areas of ash and hawthorn scrub. | County |
| Worston Common | BHS | The site comprises species-rich grassland with a diverse sward. Two species occurring at the site, namely green figwort and melancholy thistle, are included in the Provisional Lancashire Red Data List of Vascular Plants. | Scoped out due to distance from the site and small scale of impacts. |

| Site Name | Designation | Reason for Designation | Evaluation |
|---|---|---|---|
| Worsaw Hill, Warren Hill, Crow Hill and The Ridge | BHS | The cluster of limestone knolls is also notified as a geological SSSI. The site is of particular importance for its species-rich limestone grassland. Worsaw Hill supports the largest single area of limestone grassland in the Forest of Bowland. It is also notable in supporting the only population in the Forest of Bowland of the nationally scarce blue moor-grass. Limestone bedstraw, a species listed in the Provisional Lancashire Red Data List of Vascular Plants, also occurs frequently. In addition, Worsaw Hill is important for the occurrence of two nationally scarce lichens, *Polyblastia cupularis* and *Rinodina bischoffii.* As well as limestone grassland the site also includes areas of neutral and acidic grassland. These occur where glacial deposits overlie the limestone and mask its influence. The calcareous grassland comprises the National Vegetation Classification CG2 *Festuca ovina-Avenula pratensis* and the CG9 *Sesleria albicans-Galium sterneri* grasslands. The species diversity of these calcareous grasslands is far greater. | Scoped out due to distance from the site and small scale of impacts. |
| Bellman Farm Marsh | BHS | The wet fields have an underlying peaty soil, indicative of a historical wetland habitat. Their situation between slightly elevated limestone formations to the north-west and south-east indicates a former valley mire. Formerly managed as meadowland, their vegetation is essentially fen meadow. The wet fields flood in winter attracting mallard, teal, snipe and water rail with lesser whitethroat, sedge warbler and reed bunting present through the summer. The site is considered an important moult and roost site for passerines. | Scoped out due to distance from the site and small scale of impacts. |
| Coplow Quarry and Pimlico Road Grasslands | BHS | The site comprises areas of species-rich, semi-natural calcareous grassland and developing scrub at Coplow Quarry. The site includes Coplow Quarry geological SSSI. | Scoped out due to distance from the site and small scale of impacts. |

**Habitats and Species of Principal Importance**

20) Under the provisions of the NERC Act 2006[13] Section 40, all public bodies, including local authorities and statutory undertakers (including United Utilities), are required to take account of the conservation of SPI and HPI for biodiversity.

21) There are six hedgerows on site, comprising two defunct native hedgerows (HR3 and HR4), one defunct native hedgerow with trees (HR6), and three species-rich native hedgerows with trees (HR1, HR2 and HR5). All hedgerows qualify as HPI due to them comprising native species. HR2 and HR5 also qualify as important hedgerows under the Hedgerows Regulations 1997.

**Habitats Within the Survey Area**

22) The majority of the site is 'other neutral grassland' in moderate condition. This habitat is not considered to be an HPI habitat and has been scoped out of the assessment.

23) Other broadleaved woodland (non HPI) is present within and adjacent to the planning application boundary.

24) Running water is located within and adjacent to the planning application boundary in the form of Worston Brook. A MoRPh survey has been carried out on Worston Brook and found the watercourse to be in moderate condition.

25) Habitats which have been scoped out of the assessment, including other neutral grassland, roadside verge and silage field, are dealt with via the Biodiversity Net Gain strategy.

**Table 7.4: Evaluation of Habitats**

| Habitat | Description | Habitat of Principal Importance (NERC Act 2006[13]) | Evaluation |
|---|---|---|---|
| Species-poor defunct hedge | Present within planning application boundary | Yes | County |
| Species-poor defunct hedge with trees | Present within planning application boundary | Yes | County |
| Species-rich intact hedge with trees | Present within planning application boundary | Yes | County |
| Other lowland mixed deciduous woodland (HPI) | Adjacent to planning application boundary | Yes | County |
| Other broadleaved woodland | Present within planning application boundary | No | County |
| Running water | Present within planning application boundary | No | County |

**Species**

26) One pond is located within 250 m of the planning application boundary. This pond was subject to an eDNA survey; results returned negative for GCN. No records of GCN were returned in the desk study. Common amphibians may use habitats associated with the site including hedgerows and grassland. The site is unsuitable for reptiles as the grassland is regularly managed with no associated suitable habitat, and no records of reptiles were returned in the desk study. As such, these species will be taken no further within the assessment.

27) Suitable bat foraging and commuting habitat is present over grassland and along hedgerows within the planning application boundary. Further suitable habitat lies to the north (outside of the planning application boundary) along the woodland edge and along Worston Brook. The woodland along the road, within the planning application boundary, contains potential roost features in the form of mature trees with light ivy cover present. Although the ivy stems were not thick or overlapping and therefore could not form a feature, the ivy may have obscured potential roosting features on the main stem of trees. Additional trees with bat roosting features are also present. Bat emergence and activity surveys have identified high numbers of bats across the site, and there is an indication that there is a common pipistrelle roost (individual bats) in tree BT8, 30 m from the planning application boundary, and within the building known as New House, which is situated adjacent to the planning application boundary.

28) A barn owl was confirmed roosting in New House, approximately 10 m from the western corner of the site. A further barn owl roost was confirmed present in tree BT2, 26 m to the north of the site along the stream. The site provides suitable habitat for hunting barn owl and other raptors. However, the site is not considered locally important as there are similar habitats in the surrounding locality.

29) The other neutral grassland present within the site is suitable for ground-nesting species including skylark and lapwing. However, the small field size and adjacent predator habitat

makes the presence of ground-nesting birds unlikely. The hedgerows and woodland also offer breeding bird habitat.

30) Worston Brook is suitable for otter, with otter spraints and possible holt features identified during the survey visits. The desk study returned records for otter, but no records of water vole; therefore, it is unlikely that water vole is present.

31) A recently used kingfisher nest was recorded within Worston Brook, north of the Alternative Facility. Vacant nest sites were present within 50 m of the headwall structure.

32) Information received from the Ribble Rivers Trust stated that salmon and bullhead are present within Worston Brook, and that no white-clawed or signal crayfish are present. Records of European eel was also returned in the desk study.

33) Badger footprints were identified on site, however no other evidence of badger was identified. A possible disused sett was located 34 m to the north-east of the planning application boundary, on the far side of Pimlico Link Road within woodland W2. Suitable commuting and foraging habitats were present within the planning application boundary, and possible suboptimal sett-building habitat was present within the broadleaved woodland along the road.

34) Other considerations include potential for hedgehog and brown hare, however, no evidence of any of these species was recorded during the survey. Records of both species were returned in the desk study.

35) Table 7.5 presents a preliminary evaluation of species scoped into the assessment.

**Table 7.5: Preliminary Evaluation of Species**

| Species | Description | Legal Protection | Species of Principal Importance (NERC Act 2006[13]) | Preliminary Evaluation |
|---|---|---|---|---|
| Bats | Present within the woodland, scattered trees and barn; foraging habitat associated with site boundaries. | Yes | Yes | European/ international |
| Birds (various) including barn owl and kingfisher | Hedgerows and adjacent woodland provide suitable nesting habitat for common species.<br>Barn owl present in woodland and building.<br>Kingfisher present within Worston Brook. | Yes | Yes | Local to European/ international |
| Otter | Potentially present | Yes | Yes | Local to district |
| Fish (various) | Present within Worston Brook | Yes | Yes | District |
| Common amphibians | No records returned as part of the desktop study. | No | Yes (common toad) | Local |
| Badger | Potentially present | Yes | No | Less than local to local |
| Other mammals (brown hare and hedgehog) | Potentially present | No | Yes | Local to district |

## 7.5 Methodology

36) This section provides a summary of the criteria used in the assessment for ease of reference.

37) Table 7.6 presents the criteria to assess value (sensitivity), which is based on a combination of the importance or rarity of the receptor (e.g. level of designation) and also its susceptibility or vulnerability to the Alternative Facility.

**Table 7.6: Criteria to Assess Receptor Sensitivity**

| Sensitivity | Example of Receptor |
|---|---|
| Very High | Internationally designated wildlife features, e.g. European Protected Species. |
| High | Nationally designated wildlife sites e.g. SSSI, Important Hedgerows, species of national importance, e.g. those listed on Schedule 1 and 5 of the Wildlife and Countryside Act 1981[5] (as amended). |
| Medium | Locally designated wildlife sites; Biological Heritage Sites, Local Wildlife Sites; Priority habitats and species (NERC Act 2006[13]). |
| Low | Habitats or species populations of value in a local context, e.g. Ribble Valley Local Plan priority habitats and species. |
| Negligible | Habitats of little intrinsic ecological value e.g. arable fields, improved pasture. |

38) Table 7.7 presents the criteria used to assess the magnitude of impact (change), which considers the extent that the Alternative Facility would impact a receptor and whether that impact is temporary, permanent and/or reversible.

**Table 7.7: Criteria to Assess the Magnitude of Impact**

| Impact Magnitude | Typical Criteria Descriptors |
|---|---|
| Negligible | Very minimal change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation. |
| Minor | A minor and discernible/detectable shift away from baseline conditions that is not material. Minor effects may include those that are small in magnitude, have small-scale temporary changes, and where integrity is not affected. These effects are unlikely to result in overall changes in the conservation status of a species population or habitat type at the location(s) under consideration, but do not exclude the possibility that mitigation or compensation would be required. |
| Moderate | Moderate effects include moderate-scale permanent changes to an Important Ecological Feature (IEF), for example the loss or alteration to one or more key elements/features of the baseline conditions such that there would be material change to the baseline conditions post development. Moderate effects also include larger-scale temporary changes in the conservation status of a population or habitat type at the location(s) under consideration, where the integrity of the feature is not affected in the long term. |
| Major | Major effects may include those that result in extensive, permanent changes to the baseline conditions of an IEF, and are likely to change its ecological integrity. These effects are therefore likely to result in fundamental change to the conservation status of a species population or habitat type at the location(s) under consideration. |

39) Likely significant effects have been assessed using professional judgement considering the value (sensitivity) of the receptors, and the magnitude of change (impact) likely to be caused by the Alternative Facility. These factors are combined to give an overall significance of effect.

40) Significance has been derived using Table 7.8. This has been supplemented by professional judgement, which where applicable, has been explained to give the rationale behind the values assigned. In the context of the Town and Country Planning (Environmental Impact

Assessment) Regulations 2017 (the EIA Regulations)[27], likely significant effects are effects of Moderate or greater significance.

41) The duration and reversibility of impacts has also been considered. Impacts can be temporary or permanent and can be cumulative. Temporary impacts may be short-, medium- or long-term but they are reversible; irreversible impacts are described as permanent.

42) Short-term impacts are considered as those that would not last longer than the duration of the construction or decommissioning period; medium-term impacts would persist beyond the construction period, but no more than 15 years; and long-term impacts would be longer than 15 years but would still be reversible.

**Table 7.8: Significance of Effects**

| | | Magnitude of Impact | | | |
|---|---|---|---|---|---|
| | | Negligible | Minor | Moderate | Major |
| Receptor Sensitivity | Low | Neutral | Neutral | Slight | Moderate/Large |
| | Medium | Neutral | Slight | Moderate | Large |
| | High | Neutral | Slight/Moderate | Moderate/Large | Large/Very Large |
| | Very High | Neutral | Moderate/Large | Large/Very Large | Very Large |

## 7.6 Assessment of Likely Significant Effects

### 7.6.1 Introduction

43) The assessment has been undertaken on the assumption that embedded mitigation and good practice measures (as described in and Chapter 13 Environmental Mitigation and Appendix A.2 CCoP), would be implemented.

### 7.6.2 Likely Significant Effects Prior to Mitigation

#### 7.6.2.1 Construction

**Designated Sites and Habitats of Principal Importance**

44) Salthill Quarry LNR is located 3 m outside the planning application boundary, as measured from the section of the boundary along Pimlico Link Road. Bellman Park Quarry BHS is located directly adjacent to the planning application boundary, along the section of the boundary on Pimlico Link Road. Salthill Quarry BHS is located 46 m outside the planning application boundary. All three sites are locally designated sites, therefore are considered to be medium sensitivity receptors. All other designated sites have been scoped out of the assessment due to distance from the Alternative Facility or being designated for geological interest. No construction works would take place within the Salthill Quarry LNR and BHS, and Bellman Park Quarry BHS. Impacts may occur to these designated sites through dust deposition, disturbance (noise) and pollution (fuel spillages and runoff) during construction. Dust deposition in particular can have a variety of negative impacts, including reducing the availability of light for photosynthesis and altering the pH of soils which can affect the success of plants, therefore adversely impacting the habitats for which these sites are designated. These impacts would be

[27] Town and Country Planning (Environmental Impact Assessment) Regulations 2017. [Online] Available at: https://www.legislation.gov.uk/uksi/2017/571/contents [Accessed: January 2025].

temporary and small scale, and so the magnitude of impacts is considered to be minor. Overall, the significance of effects on the Salthill Quarry LNR and BHS, and Bellman Park Quarry BHS during the construction phase is considered to be Slight.

45) Other lowland mixed deciduous woodland HPI is located to the north of the site, outside the planning application boundary. This woodland would be retained throughout the works, and the planning application boundary has been revised in order to avoid the Root Protection Areas (RPAs) of this woodland. However, impacts through pollution are anticipated. Woodland HPI is vulnerable to degradation through pollution, in particular through dust deposition during construction. Pollution to soils may also occur through fuel spillages and polluted surface water runoff. This habitat is considered to be of medium sensitivity due to being priority habitat. The magnitude of impact is considered to be minor as the works have been designed to avoid impacting RPAs, and pollution impacts would be temporary. Overall, the significance of effects on the other lowland mixed deciduous woodland HPI is considered to be Slight.

46) Six hedgerows present on or adjacent to the site classify as HPI. The majority of these are to be retained within the current proposals, however a small 3 m section of the defunct hedgerow HR2 may be removed during works to install a drainage pipe. The loss of a small section of hedgerow HR2 is unlikely to significantly degrade this feature as the work proposals also include supplementary planting of gaps within the retained hedgerows during the construction phase, therefore overall 'gappiness' of hedgerows on site would be reduced. All hedgerow HPI on site is vulnerable to degradation through pollution, in particular through dust deposition during construction, and damage to roots through compaction or mechanical means. This habitat is considered to be of medium sensitivity due to being priority habitat, and the magnitude of impacts would be minor due to the small-scale, temporary nature of the works. Therefore, the significance of effects is considered to be Slight for hedgerow HPI on and adjacent to the site.

47) No likely significant effects are therefore anticipated for designated sites or HPI during construction.

**Habitats**

48) Other broadleaved woodland would be retained during the construction phase. The loss of individual young trees would be required along the woodland edge, where these have grown into the roadside verge. However, these trees form part of the woodland parcel and their loss would not reduce the overall size of the woodland, therefore no reduction in extent or condition is anticipated as a result of this small-scale loss. In addition, all losses would be compensated for elsewhere on site by planting eleven new trees during the decommissioning phase. The remaining woodland would be vulnerable to degradation through pollution, in particular through dust deposition during construction, and damage to roots through compaction or mechanical means. This woodland is not considered to be of sufficient quality to qualify as HPI, and therefore is considered to have low sensitivity. Any impacts would be permanent but minor, and would not change the status of the woodland, therefore the magnitude of impacts is considered to be minor. The significance of effects for other broadleaved woodland is considered to be Neutral.

49) No likely significant effects are anticipated for other broadleaved woodland during construction.

50) Potential impacts on Worston Brook to the north of the site would be primarily through polluted surface water runoff. A headwall structure would be installed at one location along Worston Brook. Potential impacts to the watercourse include pollution, increased sedimentation and increased discharge rates, which would all contribute towards the

degradation of the watercourse (see Chapter 6 Water Environment, Section 6.1.1 for further details). In addition, temporary habitat loss of the riparian zone and watercourse channel would also occur during the installation of a prefabricated concrete headwall structure. These impacts would result in a reduction in the condition of Worston Brook as measured by the MoRPh. Worston Brook is not considered to be of sufficient ecological value to qualify as HPI, therefore this feature is considered to be of low sensitivity. Works during the construction phase would result in larger scale, temporary changes to the watercourse, resulting in a moderate magnitude of impact. Overall, the significance of effects for Worston Brook is considered to be Slight during the construction phase.

51) No likely significant effects are anticipated for Worston Brook during construction.

**Species**

52) **Bats** – Bats are considered to be a very high sensitivity receptor due to being a European Protected Species. The majority of bat commuting habitat on site would be retained and the risk of impacts due to habitat loss is considered to be low. However, an existing gap within hedgerow H1 would be widened at the site entrance through the removal of a single hedgerow tree, in order to accommodate the access. This may shorten the hedgerow by approximately 8 m, resulting in an overall gap of 20 m in the hedgerow. This loss of a section of hedgerow may negatively affect commuting bats, as certain species (such as *Myotis* bats) are potentially sensitive to gaps in hedgerows due to the nature of their flight pattern. However, the most abundant bat species recorded were common pipistrelle and soprano pipistrelle; these are generalist species that can tolerate gaps in hedgerows. However, security fencing would be installed on either side of the access road. This could be used by bats as a navigational feature, thus bridging the gap in the commuting route. Therefore, the loss of a section of HR1 is not considered to negatively impact commuting bats. Bat activity surveys recorded a total of 25 common pipistrelle passes and two soprano pipistrelle passes along this hedgerow (combined number for both transect visits), with a total of eight bats identified using the feature for foraging or commuting. This feature is therefore considered to support low bat activity levels. In addition, alternative suitable commuting habitat is available elsewhere on site and in the surrounding area in the form of tree-lined watercourse corridors. As such, the magnitude of impact for commuting bats is considered to be negligible.

53) Foraging habitat for bats in the form of other neutral grassland would be removed to accommodate the works. This vegetation removal may reduce insect prey availability. However, this habitat is frequent in the wider landscape and so impacts on local bat populations are considered to be negligible. Connectivity to foraging links in the wider landscape would be available through hedgerows and tree-lined watercourse corridors within the surrounding area. Overall, the magnitude of impact for foraging bats is considered to be negligible.

54) Security lighting would be in place throughout the construction phase. Increased lighting, including light spillage onto adjacent habitats, could illuminate foraging habitat and disrupt bat movement through the wider landscape, in particular for bats roosting in features adjacent to the site. Light spillage onto these roost sites could have a negative adverse impact on roosting bats if present during works, potentially resulting in the abandonment of roost sites. Sensitivity to light varies across species, with *Myotis* species considered the most light-sensitive bats. However, considering the very low number of *Myotis* bats recorded during the surveys in the area, the magnitude of effect is considered to be minor and is unlikely to result in overall changes in the conservation status of the local *Myotis* population. The most frequent bat species utilising the site during the surveys were common and soprano pipistrelle bats. These species are the most common in the UK and are also more tolerant to lighting and disturbance when foraging and commuting, compared to other species. Overall, it is considered that

construction works would result in a minor magnitude of impact on foraging and commuting bats.

55) Roosting habitat is present adjacent to the site in the form of bat trees and the New House building, with confirmed individual common pipistrelle bats roosting in the New House building and tree BT8. Both roosting features are located outside the planning application boundary, however, they may be subject to disturbance impacts such as lighting, noise and vibration within 10 m of the roost. This could have a negative impact on roosting bats if present during works, potentially resulting in the abandonment of roost sites. As the confirmed roost features adjacent to the site supported individual bats, any disturbance would impact a small number of bats and would not result in an overall change in the conservation status of the local bat population. As such, the magnitude of impact for roosting bats is considered to be minor.

56) Overall, the significance of effects is considered to be Moderate/Large due to potential minor impacts to roosting, foraging and commuting bats (a very high sensitivity feature) during the construction phase. **As such, likely significant effects are anticipated for bats during construction.**

57) **Birds** – The removal of areas of neutral grassland, hedgerow and trees, as well as works within Worston Brook, have the potential to result in the loss of bird nesting and foraging habitat. Any removal or disturbance to these habitats (including any new habitat from tree planting on site) has the potential to impact nesting birds if undertaken within the nesting bird season (March to August inclusive) and/or without due care and attention. This would constitute an offence under the Wildlife and Countryside Act 1981[5]. Disturbance during works, due to increased noise, vibration, lighting and human presence, could affect birds and lead to a decrease in the number of species and abundance of birds around working areas. However, such impacts would likely be localised and relatively short-term. The majority of bird species likely to be present on site are considered to be of low sensitivity as they are Lancashire Key Species[28], and the magnitude of impacts to these species is considered to minor. Overall, the significance of effects for the majority of birds on site is considered to be Neutral.

58) Two Schedule 1 species are present on and adjacent to the site, comprising barn owl and kingfisher. A licence would be required in order to disturb these species, and they are considered to be high-sensitivity receptors due to being listed on Schedule 1 of the Wildlife and Countryside Act (1981). The removal of neutral grassland has the potential to reduce the extent of barn owl hunting habitat. This reduction would not impact on the local population as this habitat is frequent within the wider landscape. Roosting barn owl have been confirmed to be present directly adjacent to the site within building B1, and 26 m from the site within tree BT2. Disturbance of barn owls in their roosts could occur through noise, lighting, dust, vibration and increased human presence. Further to this, potential fragmentation of roosting habitats from hunting grounds to the north could occur, as barn owls may have to commute along the woodland edge rather than flying directly over the construction site in order to access fields to the north. Overall, the magnitude of impacts to barn owl are considered to be minor, as no breeding barn owl are present on or adjacent to the site.

59) Works to install a headwall structure adjacent to Worston Brook could result in impacts to nesting kingfisher, including disturbance through human presence, noise and vibration resulting in nest abandonment, and through the risk of direct harm/mortality of individuals through the destruction of nests. Further, any pollution to the Worston Brook during

[28] Lancashire Environment Record Network (2016). Lancashire Key Species. [Online] Available at: https://new.fylde.gov.uk/wp-content/uploads/2019/11/ED070b-LCC-Species-Key-LERN-.pdf [Accessed: January 2025].

construction could result in adverse impacts on water quality which could impact kingfisher food sources. The magnitude of these impacts is considered to be moderate, as the destruction of a kingfisher nest would result in an impact to the local kingfisher population. Overall, the significance of effects for barn owl is considered to be Slight/Moderate, and for kingfisher is considered to be Moderate/Large.

60) No likely significant effects are anticipated for the majority of birds during construction. Likely significant effects are anticipated for Schedule 1 birds[5] during construction.

61) **Otter** – Works to install a headwall structure into Worston Brook could result in impacts to otter, including disturbance through human presence, lighting, noise and vibration, the fragmentation of otter commuting habitat during in-river works and the risk of direct harm to/mortality of individuals through the destruction of resting places or holts. Further, any pollution of Worston Brook during construction could result in adverse impacts on water quality which could impact otter food sources. Additional potential impacts include the risk of individuals becoming trapped in open excavations during works. As otters are a European Protected Species, they are considered to be a very high sensitivity receptor. The magnitude of impacts is considered to be minor, as effects would be small scale. Overall, the significance of effects for otter is considered to be Moderate/Large.

62) Likely significant effects are anticipated for otter during construction.

63) **Common amphibians** – The removal of neutral grassland, hedgerow and woodland and other refugia has the potential to result in the loss of terrestrial refuge/foraging/commuting habitat for amphibians including common toad (an SPI), and the potential killing and/or injury of individuals if works are undertaken in the absence of mitigation, and without due care and attention. The habitats to be lost are frequent and of higher quality within the wider environment, so any loss on site is unlikely to result in a significant adverse effect on the local population. Common toads are considered to be a medium sensitivity receptor as they are a priority species, whereas other common amphibians are considered to be of low sensitivity as they are identified as Lancashire Key Species[28]. Overall, works during the construction phase may result in a minor adverse impact in the short-term, therefore the magnitude of impact is considered to be minor. Overall, the significance of effects for common amphibians is considered to be Neutral/Slight.

64) No likely significant effects are anticipated for common amphibians during construction.

65) **Fish** – There is a risk of pollution through fuel/chemical spillage during works to install a headwall structure into Worston Brook, which could result in the direct harm/mortality of fish including salmon and bullhead. The works would also result in damage and destruction of suitable fish habitat (gravel and cobble substrate) during reinforcement of the banks and channel with concrete and rubble. The potential risk of fish travelling into the pipe is considered to be extremely low, as the pipe entrance is located on the bank, above the top surface water level. The oil interceptor chamber would prevent fish from accessing further up the pipe to the Site Drainage Attenuation Area, in the unlikely event that European eel crawl up the bank to access the pipe. In addition, surface water runoff from the construction site has the potential to pollute Worston Brook. Additional disturbance and pollution could include lighting and dust pollution during construction works. Light spillage from artificial lighting at night could alter the behaviour of migratory fish within Worston Brook. However, any light spillage onto the watercourse during the construction phase would be very low level and is unlikely to form a barrier for migratory fish; and no night-time working would occur within the watercourse. European eel, Atlantic salmon, brown trout and brook lamprey are all potentially present within the watercourse and are priority species and are considered to be of medium sensitivity due to being priority species. Works could also result in the temporary disruption of

fish migration/spawning habitat during in-river works. Overall, the magnitude of impact is considered to be moderate, as impacts during construction would be small scale. Overall, the significance of effects is considered to be Moderate.

66) Likely significant effects are anticipated for fish during construction.

67) **Badgers** – Evidence of badger in the form of footprints was identified on site, therefore the site is likely used by foraging or commuting badgers. Although no badger setts were identified on or within 30 m of the planning application boundary, badgers are mobile creatures and may move onto the site at any time, therefore removal of trees within woodland habitat may result in the direct harm/mortality of individuals in their setts. Potential impacts on badger may also arise from security lighting, which could disrupt foraging and commuting behaviour. Additional impacts include the loss of foraging and commuting habitat, and the risk of individuals becoming trapped in open excavations during works. This could result in a minor adverse impact on local badger populations. Overall, badgers are considered to be a low sensitivity receptor, and the magnitude of impacts is considered to be moderate due to the risk of direct harm/mortality of badgers in their setts. Overall, the significance of effects is considered to be Slight.

68) No likely significant effects are anticipated for badgers during construction.

69) **Other mammals** – Small mammals likely utilise the habitats on site, and impacts to these species, including hedgehogs and brown hare (both are SPI), include potential disturbance/harm of individuals and loss of foraging, breeding, refuge and hibernation habitats. The loss of these habitats is temporary, and the habitats to be lost are frequent within the wider landscape, therefore no significant adverse effects are anticipated as a result of temporary habitat loss. Additional impacts include disturbance through noise, lighting and construction traffic, and the risk of individuals becoming trapped in open excavations during works. SPI are considered to be of medium sensitivity and the magnitude of impact for hedgehogs and brown hare is considered to be minor. Overall, the significance of effects is considered to be Slight.

70) No likely significant effects are anticipated for other mammals during construction.

### 7.6.2.2 Operation

**Designated Sites and Habitats of Principal Importance**

71) Salthill Quarry LNR and BHS, and Bellman Park Quarry BHS are located outside or adjacent to the planning application boundary. These locally designated sites are considered to be medium sensitivity receptors. All other designated sites have been scoped out of the assessment due to distance from the site or being designated for geological interest. No activities would take place within the Salthill Quarry LNR and BHS, and Bellman Park Quarry BHS, during the operational phase. Impacts may occur to these designated sites though dust deposition, disturbance (noise) and pollution (fuel spillages and runoff) during site operation due to the increased level of construction traffic using the park and ride and Heavy Goods Vehicle marshalling area, and the adjacent roads. These impacts would be temporary and small scale, and so the magnitude of impacts is considered to be minor. Overall, the significance of effects on the Salthill Quarry LNR and BHS, and Bellman Park Quarry BHS during the operational phase are considered to be Slight.

72) There is a risk of direct impacts to HPI including lowland mixed deciduous woodland HPI and hedgerow HPI during the operational phase through dust pollution. Pollution to soils may also occur through fuel spillages and polluted surface water runoff. These priority habitats are

considered to be of medium sensitivity. The magnitude of impact is considered to be minor as pollution impacts would be temporary. Overall, the significance of effects on the HPI habitats on and adjacent to the site is considered to be Slight.

73) No likely significant effects are anticipated for designated sites and HPI during operation.

**Habitats**

74) Other broadleaved woodland would be retained during site operation. The retained woodland would be vulnerable to degradation through pollution, in particular through dust deposition from construction traffic, and damage to roots through compaction or mechanical means. This woodland is not considered to be of sufficient quality to qualify as HPI, and therefore is considered to have low sensitivity. Any impacts would be temporary and minor, and would not change the status of the woodland, therefore the magnitude of impacts is considered to be minor. The significance of effects for other broadleaved woodland is considered to be Neutral.

75) No likely significant effects are anticipated for other broadleaved woodland during site operation.

76) Potential impacts on Worston Brook to the north of the site would be primarily through polluted surface water runoff. A headwall structure would release surface water from the site at one location along Worston Brook. Potential impacts to the watercourse include pollution, increased sedimentation and increased discharge rates, which all contribute towards the degradation of the watercourse (see Chapter 6 Water Environment, Section 6.1.1 for further details). However, embedded mitigation comprising a Site Drainage Attenuation Area and an oil interceptor chamber prior to discharge would reduce the risk of a pollution incident. Worston Brook is not considered to be of sufficient ecological value to qualify as HPI, therefore this feature is considered to be of low sensitivity. The release of surface water runoff into Worston Brook during site operation would result in small-scale, temporary changes to the watercourse, resulting in a minor magnitude of impact. Overall, the significance of effects for Worston Brook is considered to be Neutral during the operational phase.

77) No likely significant effects are anticipated for Worston Brook during site operation.

**Species**

78) **Bats** – Bats are considered to be a very high sensitivity receptor due to being a European Protected Species. Potential impacts to bats during the operational phase of the Alternative Facility primarily include disturbance to retained foraging, commuting and roosting habitats through lighting and noise. Artificial lighting would be in place overnight throughout the operational phase. Increased lighting, including light spillage onto adjacent habitats, could illuminate foraging habitat and prevent bat movement through the wider landscape, in particular for bats roosting in features adjacent to the site. Light spillage and noise disturbance onto these roost sites could have a negative adverse impact on roosting bats if present during works, potentially resulting in the abandonment of roost sites. Overall, it is considered that site operation would result in a minor magnitude of impact on foraging, commuting and roosting bats due to the effects being small scale and reversible and not changing the overall conservation status of local bat species, therefore the significance of effects is considered to be Moderate/Large.

79) Likely significant effects are anticipated for bats during operation.

80) **Birds** – Disturbance during site operation, due to increased noise, vehicular and human presence, could affect birds and lead to a decrease in the number of species and abundance of

birds around the site. However, such impacts would likely be localised and medium-term and are considered to have a negligible impact on local bird populations.

81) Potential impacts to barn owl during operation include disturbance to roosts through noise, human presence and lighting. Further to this, potential fragmentation of roosting habitats from hunting grounds to the north could occur, as barn owls may have to commute along the woodland edge rather than flying directly over the site in order to access fields to the south. Any pollution to Worston Brook during operation through polluted surface water runoff via the drainage pipe, could result in adverse impacts on water quality which could impact kingfisher food sources. However, embedded mitigation comprising a Site Drainage Attenuation Area and an oil interceptor chamber prior to discharge would reduce the risk of a pollution incident. Both species are considered to be high-sensitivity receptors due to being listed on Schedule 1 of the Wildlife and Countryside Act 1981. Overall, the magnitude of impacts for barn owl and kingfisher are considered to be minor, as they would result in a small-scale effect that would not compromise the conservation status of barn owl and kingfisher in the local area. Overall, the significance of effects for barn owl and kingfisher is considered to be Slight/Moderate, due to the sensitivity of the Schedule 1 birds.

82) No likely significant effects are anticipated for the majority of birds during site operation. **Likely significant effects are anticipated for Schedule 1 birds during site operation.**

83) **Otter** – Any pollution to Worston Brook during operation through polluted surface water runoff via the drainage pipe, could result in adverse impacts on water quality which could impact otter food sources. However, embedded mitigation comprising a Site Drainage Attenuation Area and an oil interceptor chamber and silt interceptor facility prior to discharge would reduce the risk of a pollution incident. In addition, light spillage from overnight lighting could impact otter commuting and hunting along Worston Brook. However, any light spillage onto the watercourse during the operational phase would be very low level and is unlikely to form a barrier for otter. Otter is considered to be a very high sensitivity receptor due to being a European Protected Species. The magnitude of impacts is considered to be negligible, potentially causing a slight change in otter foraging and commuting behaviour, without resulting in overall changes to the local otter population. Overall, the significance of effects is considered to be Neutral.

84) No likely significant effects are anticipated for otter during operation.

85) **Common amphibians** – Suitable habitat on site for amphibians during site operation are limited to retained areas of woodland and hedgerow, and potentially within the Site Drainage Attenuation Area, however no significant impacts to these habitats are anticipated during the operational phase. It is possible that an increase in construction traffic may result in increased casualties if individuals travel into the car parking area. This would result in a minor impact on common amphibians, resulting in an overall significance of effect of Neutral/Slight.

86) No likely significant effects are anticipated for common amphibians during operation.

87) **Fish** – There is a risk of pollution through surface water runoff entering Worston Brook via the water drainage pipe, which could result in fuel/oil or other pollutants entering the water, increased sedimentation and increased flow rates. However, embedded mitigation comprising a Site Drainage Attenuation Area and an oil interceptor chamber and silt interceptor facility prior to discharge would reduce the risk of a pollution incident. In addition, light spillage from artificial lighting at night could alter the behaviour of migratory fish within Worston Brook. However, any light spillage onto the watercourse during the operational phase would be very low level and is unlikely to form a barrier for migratory fish, and no night-time working would occur within the watercourse. European eel, Atlantic salmon, brown trout and brook lamprey

are all potentially present within the watercourse and are priority species and are considered to be of medium sensitivity due to being priority species. Overall, the magnitude of impact is considered to be minor, as impacts during site operation would be small scale. Overall, the significance of effects is considered to be Slight.

88) No likely significant effects are anticipated for fish during operation.

89) **Badgers** – Potential impacts on badger may arise from overnight site lighting, which could disrupt foraging and commuting behaviour. Additional impacts to badger include the overnight human presence of security on site and increased HGV presence, which could deter badgers from commuting across the site and increases the risk of harm/mortality through vehicle collisions. Badgers are considered to be a low sensitivity receptor, and the magnitude of impact is considered to be moderate, therefore the overall significance of effects is considered to be Slight.

90) No likely significant effects are anticipated for badgers during operation.

91) **Other mammals** – Suitable habitat on site during site operation is limited to retained areas of woodland and hedgerow which would be suitable for hedgehog. Increased traffic and HGV presence may increase the risk of harm/mortality of hedgehogs and brown hare through vehicle collisions. However, this is considered to be very unlikely due to the lack of suitable habitat present on site. The sensitivity of the receptor is considered to be medium, and the magnitude of impact is considered to be minor, therefore the overall significance of effects is considered to be Slight.

92) No likely significant effects are anticipated for other mammals during operation.

### 7.6.2.3 Decommissioning

**Designated Sites and Habitats of Principal Importance**

93) Salthill Quarry LNR and BHS, and Bellman Park Quarry BHS are located outside or adjacent to the planning application boundary. These locally designated sites are considered to be medium sensitivity receptors. All other designated sites have been scoped out of the assessment due to distance from the site or being designated for geological interest. No decommissioning works would take place within the Salthill Quarry LNR and BHS, and Bellman Park Quarry BHS. Impacts may occur to these designated sites though dust deposition, disturbance (noise) and pollution (fuel spillages and runoff) during decommissioning works. These impacts would be temporary and small scale, and so the magnitude of impacts is considered to be minor. Overall, the significance of effects on the Salthill Quarry LNR and BHS, and Bellman Park Quarry BHS during the decommissioning phase are considered to be Slight.

94) There is a risk of direct impacts to HPI (including lowland mixed deciduous woodland HPI and hedgerow HPI) during the decommissioning phase through dust pollution, and a risk of damage to hedgerow roots through compaction or mechanical means during site landscaping works. Pollution to soils may also occur through fuel spillages and polluted surface water runoff. These priority habitats are considered to be of medium sensitivity. The magnitude of impact is considered to be minor as the Alternative Facility has been designed to avoid impacting RPAs where possible to ensure only small-scale impacts, and pollution impacts would be temporary. Overall, the significance of effects on the HPI habitats on and adjacent to the site are considered to be Slight.

95) No likely significant effects are anticipated for designated sites and HPI during decommissioning.

**Habitats**

96) The other broadleaved woodland would be vulnerable to degradation through pollution, in particular through dust deposition during decommissioning, and damage to roots through compaction or mechanical means during landscaping works. This woodland is not considered to be of sufficient quality to qualify as HPI, and therefore is considered to have low sensitivity. Any impacts would be temporary and would not change the status of the woodland; therefore, the magnitude of impacts is considered to be minor. The significance of effects is considered to be Neutral.

97) No likely significant effects are anticipated for other broadleaved woodland during decommissioning.

98) Potential impacts on Worston Brook to the north of the site would be primarily through polluted surface water runoff. A headwall structure would be removed from one location along Worston Brook. Potential impacts to the watercourse during works include pollution and increased sedimentation, which all contribute towards the degradation of the watercourse (see Chapter 6 Water Environment, Section 6.1.1 for further details). Worston Brook is not considered to be of sufficient ecological interest to qualify as HPI, therefore this feature is considered to be of low sensitivity. The release of polluted water into Worston Brook during decommissioning works would result in larger scale, temporary changes to the watercourse, resulting in a moderate magnitude of impact. Overall, the significance of effects for Worston Brook are considered to be Slight during the decommissioning phase.

99) No likely significant effects are anticipated for Worston Brook during decommissioning.

**Species**

100) **Bats** – Potential impacts to bats during the decommissioning phase of the Alternative Facility primarily include disturbance to retained foraging, commuting and roosting habitats through lighting, vibration and noise. Security lighting would be in place overnight throughout the decommissioning phase. Increased lighting, including light spillage onto adjacent habitats, could illuminate foraging habitat and prevent bat movement through the wider landscape, in particular for bats roosting in features adjacent to the site. Light spillage onto these roost sites could have a negative adverse impact on roosting bats if present during works, potentially resulting in the abandonment of roost sites. As the confirmed roost features adjacent to the site supported individual bats, any losses would likely be small in magnitude and would not result in an overall change in the conservation status of the local bat population. Overall, it is considered that site decommissioning would result in a minor magnitude of impact on foraging, commuting and roosting bats. This is due to the effects being small scale and reversible and not changing the overall conservation status of local bat species; therefore, the magnitude of impacts is considered to be minor. Overall, the significance of effects is considered to be Moderate/Large due to potential minor impacts to roosting, foraging and commuting bats (a very high sensitivity feature) during site decommissioning.

101) Likely significant effects are anticipated for bats during decommissioning.

102) **Birds** – Disturbance during decommissioning works, due to increased noise, heavy machinery, vehicular and human presence, could affect birds and lead to a decrease in the number of species and abundance of birds around working areas. However, such impacts would likely be localised and relatively short-term and are considered to have a negligible impact on local bird populations.

103) Disturbance of barn owls in their roosts could occur during decommissioning works through noise, lighting, dust, vibration and increased human presence. Further to this, potential

fragmentation of roosting habitats from hunting grounds to the south could occur, as barn owls may have to commute along the woodland edge rather than flying directly over the site during decommissioning works in order to access fields to the south. The magnitude of these impacts is considered to be minor, as they would result in a small-scale effect that would not compromise the conservation status of barn owl in the local area. Works to remove the headwall structure from Worston Brook could result in impacts to nesting kingfisher, including disturbance through human presence, noise and vibration resulting in nest abandonment, and through the risk of direct harm/mortality of individuals through the destruction of nests. Further, any pollution to Worston Brook during decommissioning could result in adverse impacts on water quality which could impact kingfisher food sources. The magnitude of these impacts is considered to be moderate, as the destruction of a kingfisher nest would result in an impact to the local kingfisher population. In addition, both species are considered to be high sensitivity receptors. Overall, the significance of effects for barn owl are considered to be Slight/Moderate and for kingfisher are considered to be Moderate/Large.

104) No likely significant effects are anticipated for the majority of birds during decommissioning. **Likely significant effects are anticipated for Schedule 1 birds during decommissioning.**

105) **Otter** – Works to remove the headwall structure from Worston Brook could result in impacts to otter, including disturbance through human presence, lighting, noise and vibration, and through the risk of direct harm/mortality of individuals through the destruction of resting places or holts. Further, any pollution to Worston Brook during decommissioning works could result in adverse impacts on water quality which could impact otter food sources. Additional impacts include the risk of individuals becoming trapped in open excavations during works. As otters are a European Protected Species, they are considered to be a very high sensitivity receptor. The magnitude of impacts is considered to be minor, as effects would be small scale. Overall, the significance of effects for otter are considered to be Moderate/Large.

106) Likely significant effects are anticipated for otter during decommissioning.

107) **Common amphibians** – The removal of the Site Drainage Attenuation Area has the potential to result in the killing and/or injury of individuals if works are undertaken in the absence of mitigation, and without due care and attention. No other impacts to suitable common amphibian habitat are anticipated. Common toads are considered to be a medium sensitivity receptor, and other common amphibians are considered to be low sensitivity receptors. Overall, works during the decommissioning phase may result in a minor magnitude of impact, therefore the significance of effects for common amphibians is considered to be Neutral/Slight.

108) No likely significant effects are anticipated for common amphibians during decommissioning.

109) **Fish** – There is a risk of pollution through fuel/chemical spillage during works to remove the headwall structure from Worston Brook, which could result in the direct harm/mortality of fish including salmon and bullhead. In addition, surface water runoff from the construction site has the potential to pollute Worston Brook. Additional disturbance and pollution could include lighting and dust pollution during construction works. Light spillage from artificial lighting at night could alter the behaviour of migratory fish within Worston Brook. However, any light spillage onto the watercourse during the construction phase would be very low level and is unlikely to form a barrier for migratory fish as no night-time working would occur within the watercourse. Works could also result in the temporary disruption of fish migration/spawning habitat during in-river works. European eel, Atlantic salmon, brown trout and brook lamprey are all potentially present within the watercourse and are priority species, considered to be of medium sensitivity. Overall, the magnitude of impact is considered to be moderate, as impacts

during decommissioning works would be small scale. Overall, the significance of effects is considered to be Moderate.

110) Likely significant effects are anticipated for fish during decommissioning.

111) **Badgers** – Potential impacts on badger may arise from security lighting during decommissioning works, which could disrupt foraging and commuting behaviour, and the risk of individuals becoming trapped in open excavations during works. This could result in a minor adverse impact on local badger populations. Overall, badgers are considered to be a low sensitivity receptor, and the magnitude of impacts is considered to be moderate due to the risk of direct harm/mortality of badgers in their setts. Overall, the significance of effects is considered to be Slight.

112) No likely significant effects are anticipated for badgers during decommissioning.

113) **Other mammals** – Suitable habitat on site during decommissioning works is limited to retained areas of woodland and hedgerow which would be suitable for hedgehog. Impacts include disturbance through noise, lighting and works traffic, and the risk of individuals becoming trapped in open excavations during works. SPI are considered to be of medium sensitivity and the magnitude of impact for hedgehogs and brown hare is considered to be minor. Overall, the significance of effects is considered to be Slight.

114) No likely significant effects are anticipated for other mammals during decommissioning.

## 7.6.3 Proposed Mitigation and Residual Effects

115) Embedded mitigation has already been included in the assessment above, comprising mitigation that is part of the design of the Alternative Facility. The following section outlines any additional mitigation that would be put in place to reduce the significance of effect. The mitigation would be adopted throughout the construction, operation and decommissioning phases, as appropriate.

**Designated Sites and Habitats of Principal Importance**

116) Pollution prevention measures, as detailed within Appendix A.2 CCoP, would be followed in order to avoid or reduce the magnitude of adverse impacts to designated sites from dust, fuel spillages and surface water runoff to a negligible level. These measures would focus in particular on dust dampening measures and wheel washing. Potential noise impacts would also be reduced through measures detailed in the CCoP, to avoid disturbance to birds that may be using the designated sites. The ECoW would also provide a method statement to be followed throughout works.

117) The pollution prevention measures mentioned above would also be followed in order to mitigate impacts to on-site and off-site HPI, including lowland mixed deciduous woodland and hedgerows. Additional measures, as identified within Appendix B.2 Arboriculture Assessment, include maintaining RPAs for all retained hedgerow and woodland HPI, to prevent damage to these features.

118) Loss of hedgerow trees would be minimised where possible. Hedgerow HR2 may be crossed in order to install the drainage pipe. This would either be microsited so that works are situated within existing gaps in the hedgerow/trees, or hand dug underneath the hedgerow/trees, in order to minimise losses of these features. A small 3 m gap may be required within HR2. Gaps within hedgerow HR4 would be filled in with native tree planting during the construction phase, which would improve the condition and species richness of this hedgerow.

119) Full details of measures to prevent impacts to designated sites and HPI are detailed within Appendix A.2 CCoP and would be covered by a method statement provided by the ECoW.

**Habitats**

120) The loss of habitats on site would be compensated for through the Biodiversity Net Gain strategy. United Utilities is committed to at least a 10% Biodiversity Net Gain on the Alternative Facility. Since United Utilities does not own the land, the company cannot commit to habitat management for 30 years on site. All habitats would be reinstated back to pre-commencement condition as a minimum, and BNG delivery would be achieved through securing offsite units, as required.

121) Additional measures would include maintaining RPAs for the other broadleaved woodland, as well as following pollution prevention measures for dust pollution to prevent damage to this feature.

122) Pollution prevention measures would also be adhered to in order to prevent contaminated runoff entering into Worston Brook, with water quality monitoring (comprising chemical and invertebrate surveys) to be carried out throughout the Alternative Facility, in line with any permitting requirements requested by the competent authorities. The Sustainable Drainage Strategy (RVBC–P&R-APP-RP-005), combined with a more detailed contractor's sustainable drainage strategy would also be adhered to in respect of Worston Brook, in order to avoid pollution or other impacts, such as increased flow rates and sedimentation, via the drainage pipe.

**Species**

123) **Bats** – In order to reduce the impacts of disturbance on roosting, foraging and commuting bats, measures are detailed within Appendix A.2 CCoP and would be further addressed by a method statement provided by the ECoW, to ensure vibration and noise is minimised around sensitive roost locations, for example New House, and trees with bat roosting potential or confirmed roosts. Solid plywood panel hoarding would also be installed along the northern boundary of the site. Disturbance throughout the development would be minimised through measures detailed within the CCoP and method statement, including noise and vibration. This would reduce impacts of noise on this feature to negligible. In addition, a sensitive lighting strategy would be designed in line with the Institution of Lighting Professionals (ILP) Guidance[29] in order to avoid light spillage onto the retained hedgerows, woodland and roost features. These mitigation measures would ensure impacts to bats are reduced to negligible. Additional enhancement measures would include installing bat boxes on mature trees and on the south-western elevation of New House, subject to landowner agreement.

124) **Birds** – Impacts to birds would be minimised through the careful timing of works to avoid the breeding season. If vegetation clearance is to take place within nesting bird season, works would be preceded by a nesting bird survey carried out by a suitably qualified ecologist, with appropriate exclusion zones established by the site Ecological Clerk of Works (ECoW) around active nests. Disturbance throughout the development would be minimised through measures detailed within Appendix A.2 CCoP and a method statement provided by the ECoW, including noise and vibration.

125) Disturbance to barn owl roosts within New House and a tree BT2 adjacent to the site would be mitigated for by adding solid plywood panel hoarding along the northern site boundary. This

[29] Institute of Lighting Professionals (ILP) (2023). Guidance Note 08/23 Bats and artificial lighting at night. [Online] Available at: https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/ [Accessed: January 2025].

would also provide a physical/visual boundary to prevent access/working close to sensitive barn owl roosting habitats. Prior to the commencement of each development phase, a licensed surveyor would inspect New House to confirm whether barn owls are nesting. If barn owls are confirmed to be breeding during these checks, a dedicated Barn Owl mitigation strategy would be required.

126) Fragmentation of barn owl roosting sites from adjacent hunting grounds would be mitigated by adding in additional barn owl boxes further north of the site, providing alternative roosting opportunities in the local area that would not be subject to disturbance (subject to landowner agreement).

127) If installation of the surface water drainage pipes and headwall structure is to take place within nesting bird season, works would be preceded by a nesting bird survey carried out by a suitably qualified ecologist, with appropriate exclusion zones established by the site ECoW around active nests. No works would proceed until the ecologist has confirmed the nest is no longer active. Finally, pollution prevention measures and the Sustainable Drainage Strategy (RVBC–P&R-APP-RP-005) would be followed in order to prevent pollution of kingfisher habitat.

128) Enhancement measures include additional bird boxes to be installed on mature trees adjacent to the site, subject to landowner agreement.

129) **Common amphibians** – The ECoW would provide a method statement for mitigating impacts to common amphibians, including staged vegetation removal and careful dismantling of refugia.

130) **Otter** – As otters are largely nocturnal, mitigation measures during construction and decommissioning (developed in detail in Appendix A.2 CCoP and in a method statement provided by the ECoW) would focus on the restriction of night-time working (to avoid disturbance to roaming otters), and the maintenance of barrier-free, night access along Worston Brook. Measures would also include ensuring any open excavations are backfilled or capped off at the end of each working day or fitted with an escape ramp. In addition, pollution prevention measures and the Sustainable Drainage Strategy (RVBC–P&R-APP-RP-005) would be followed in order to prevent pollution of otter habitat, as detailed within Appendix A.2 CCoP and method statement. Water quality monitoring (comprising chemical and invertebrate surveys) would be carried out throughout the Alternative Facility, in line with the Environment Agency guidelines.

131) **Fish** – Pollution prevention measures and the Sustainable Drainage Strategy (RVBC–P&R-APP-RP-005) would be followed in order to prevent pollution of fish habitat, as detailed within Appendix A.2 CCoP and a method statement provided by the ECoW. The outflow the headwall structure would be covered with a fine mesh to prevent the passage of eels up the pipe and into the oil interceptor chamber. The in-river working window would be timed to avoid fish migration/spawning periods, in line with the Environment Agency guidelines. Water quality monitoring (comprising chemical and invertebrate surveys) to be carried out throughout the Alternative Facility, in line with the Environment Agency guidelines.

132) **Badgers** – Pre-construction surveys would be carried out to check for any changes in the baseline badger activity. If required, an additional method statement would be produced by the ECoW detailing further monitoring/licence requirements. This is outlined within Appendix A.2 CCoP. Additional general measures for foraging and commuting badgers would include ensuring any open excavations are backfilled or capped off at the end of each working day or fitted with an escape ramp. A sensitive lighting strategy would be designed in order to avoid light spillage onto potential foraging and commuting habitats.

133) **Other mammals** – Appendix A.2 CCoP and a method statement provided by the ECoW would include measures to reduce noise, vibration, light pollution and human disturbance; ensure debris is removed from work areas, excavations are covered overnight or provided with escape ramps, and that small mammals found during works are relocated.

134) Table 7.9 summarises the residual effects that have been identified on the Alternative Facility following the application of mitigation.

**Table 7.9: Summary of Mitigation and Residual Effects**

| Receptor | Description | Likely Effect Prior to Mitigation | Proposed Mitigation | Likely Effect Following Mitigation |
|---|---|---|---|---|
| Bellman Park Quarry BHS<br>Salthill Quarry BHS<br>Salthill Quarry LNR<br><br>Medium sensitivity | All BHS and LNR are located within 400 m of the site, the closest being the Bellman Park Quarry BHS which borders the site. The sites are designated for a variety of habitats, including botanically rich grassland, birds and invertebrates. No direct impacts to designated sites are anticipated. Risk of pollution through dust deposition, polluted runoff and noise disturbance to birds. | Medium-term, Slight Adverse (Not Significant) | Pollution prevention measures – dust suppression, noise mitigation outlined in Appendix A.2 CCoP and detailed in a method statement provided by the ECoW. | Neutral (Not Significant) |
| Hedgerow HPI<br><br>Medium sensitivity | On-site hedgerows vulnerable to dust deposition, polluted runoff, compaction or damage to roots, and small loss of hedgerow trees. | Permanent, Slight Adverse (Not Significant) | Pollution prevention measures, RPAs, compensation within BNG strategy (off site). Micrositing pipe or hand digging under hedgerow. Filling in existing gaps through tree planting during construction. | Slight Positive |
| Other lowland mixed deciduous woodland (HPI)<br><br>Medium sensitivity | Offsite woodland HPI vulnerable to dust deposition and polluted runoff. | Medium-term, Slight Adverse (Not Significant) | Pollution prevention measures. | Neutral (Not Significant) |
| Other broadleaved woodland<br><br>Low sensitivity | Loss of trees (not impacting total woodland area or condition), damage to roots by mechanical means, and degradation through dust deposition and polluted runoff. | Long-term, Slight Adverse (Not Significant) | Pollution prevention measures, RPAs, compensation within BNG strategy, replacement of trees with eleven new trees. | Neutral (Not Significant) |
| Running water<br><br>Low sensitivity | Degradation through pollution, disturbance, temporary impacts to riparian zone. | Medium-term, Slight Adverse (Not Significant) | Pollution prevention measures and sensitive drainage strategy. Site Drainage Attenuation Area and oil interceptor chamber and silt interceptor facility (embedded mitigation). | Neutral (Not Significant) |

| Receptor | Description | Likely Effect Prior to Mitigation | Proposed Mitigation | Likely Effect Following Mitigation |
|---|---|---|---|---|
| Common amphibians<br><br>Low/medium sensitivity | Loss of terrestrial habitats and disturbance and harm/ mortality of individuals during habitat removal. | Medium-term, Neutral/Slight Adverse (Not Significant) | ECoW to provide a method statement for common amphibians including staged vegetation removal and careful dismantling of refugia. | Neutral (Not Significant) |
| Bats<br><br>Very high sensitivity | Disturbance of foraging and commuting habitats through light spillage, vibration and noise. Small temporary loss of commuting habitat along hedgerow HR1. Disturbance of roosting habitat provided by several trees and the building on site. | Medium-term, Moderate/Large Adverse **(Significant)** | Mitigation measures incorporated into the CCoP to limit habitat loss and disturbance (noise and vibration). Pre-works inspections of trees with confirmed roosts or bat roosting potential if trees are to be impacted.<br>Sensitive lighting strategy to avoid light spillage onto bat roosting, foraging and commuting habitat. | Neutral (Not Significant) |
| Birds including Schedule 1 barn owl and kingfisher<br><br>Low/high sensitivity | Potential for destruction/ damage of nests, disturbance and displacement of breeding birds, and temporary loss of foraging and nesting habitat.<br>Disturbance of roosting barn owls through noise, light spillage, vibration and human/machinery presence.<br>Temporary fragmentation of existing barn owl roost sites from the wider landscape.<br>Loss of kingfisher fishing habitat through water pollution.<br>Destruction/damage to kingfisher nests resulting in the direct harm/killing of individuals. | Medium-term, Moderate/Large Adverse **(Significant)** | Mitigation measures incorporated into the CCoP to limit habitat loss and disturbance. Works to take place outside of breeding bird season; if that is not possible, pre-works inspections for breeding birds would be carried out and appropriate exclusion zones would be established by the site ECoW around active nests.<br>The reinstatement of all impacted woodland and grassland would compensate for the loss of breeding bird habitat.<br><br>Solid plywood panel hoarding along northern boundary to minimise noise disturbance and shield sensitive barn owl roosting habitats from the operational site. Inclusion of additional barn owl boxes off site, subject to landowner agreement.<br><br>Pollution prevention measures and drainage strategy in place. | Slight (Not significant) |
| Otter<br><br>Very high sensitivity | Disturbance due to noise, lighting and human presence; and risk of direct harm to individuals during temporary works to install and remove headwall structure.<br>Degradation of habitats through pollution. | Short-term, Moderate/Large Adverse **(Significant)** | Mitigation measures incorporated into Appendix A.2 CCoP to limit physical disturbance to the banks of Worston Brook and pollution (including sedimentation) when working in or near water. Pre-works checks for otter and water vole within working areas prior to works commencing. An additional | Neutral (Not Significant) |

| Receptor | Description | Likely Effect Prior to Mitigation | Proposed Mitigation | Likely Effect Following Mitigation |
|---|---|---|---|---|
| | | | method statement provided by the ECoW to cover the following: night-time working near Worston Brook would be avoided or minimised, and no obstructions to otter movements along Worston Brook at night; any excavations backfilled or capped, or escape ramp provided; and implementation of a sensitive lighting scheme during construction and operation to limit light spill onto Worston Brook with no direct illumination. | |
| Fish (salmon, European eel, bullhead)<br><br>Medium sensitivity | Secondary impacts from pollution of Worston Brook. Potential loss of migratory/ spawning habitat. | Medium-term, Moderate Adverse **(Significant)** | Pollution prevention measures and carefully designed drainage strategy. Embedded mitigation of Site Drainage Attenuation Area and oil interceptor chamber and silt interceptor facility. Mesh covering of outfall pipe at the headwall structure. In-river working timed to avoid spawning/ migration window. Water quality monitoring. | Slight (Not Significant) |
| Badgers<br><br>Low sensitivity | Disturbance due to noise, lighting and human presence and risk of direct harm to individuals during construction, operation and decommissioning. Potential loss of setts if present within sett-building habitat during construction phase. | Medium-term, Slight Adverse (Not Significant) | ECoW to provide a badger method statement, detailing pre-construction survey and monitoring requirements. A licence from Natural England would be sought for direct impacts on active badger setts if found during pre-works survey. Implementation of sensitive lighting scheme during construction and operation if required. | Neutral (Not Significant) |
| Other mammals<br><br>Medium sensitivity | Habitat loss, degradation of suitable habitats through pollution, direct harm during removal of habitat, and disturbance due to noise, lighting and human presence. | Medium-term, Slight Adverse (Not Significant) | Appendix A.2 CCoP and method statement provided by the ECoW includes measures to reduce noise, vibration, light pollution and human disturbance; ensure debris is removed from work areas, excavations are covered overnight or provided escape ramps, and that small mammals found during works are relocated. | Neutral (Not Significant) |

## 7.7 Conclusion

135) Embedded mitigation, best practice measures and essential mitigation would avoid or reduce all adverse effects on habitats to non-significant. Habitat loss would be temporary with small exceptions; all habitats that would be lost and reinstated are common and widespread. These include scattered trees along the edge of other broadleaved woodland, hedgerows and other neutral grassland.

136) Significant impacts on species would be avoided through embedded mitigation measures and potential impacts would be reduced following habitat reinstatement and through installation of bat/bird boxes to provide alternative roosting/nesting habitats. In addition, with the potential exception of bats (tree roosts) and barn owl, it is anticipated that no protected species licences would be required.

137) In addition to habitat reinstatement, United Utilities is committed to habitat improvements equating to 10% net gain in biodiversity.

138) The assessment considered ecology effects from the Alternative Facility during construction, operation, and decommissioning. Potential adverse ecological effects to habitats and species have been identified during the construction, operation and decommissioning phases of the Alternative Facility. However, a series of mitigation measures are proposed which would reduce these adverse effects to Neutral or Slight significance which is not significant in the context of the EIA Regulations.